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Koeder, Marco Josef; Tanaka, Ema

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WORKING PAPER – DO NOT PUBLISH

Game of chance elements in free-to-play mobile games. A freemium business model monetization tool in need of self-regulation?

Koeder, Marco Josef, Ema Tanaka

Abstract:

This paper conceptualizes "Gacha", a lottery mechanism to win virtual items, which was developed in Japan, as game of chance elements in mobile games which is used for monetization in freemium business models. Based on the concept of Gacha, referring to previous studies, this paper also analyzes the difference of mobile game regulation between the West and Japan. Japan has a longer history and more experience in both monetization of mobile games with gambling like elements (Gacha) and its regulation including self-regulation. Specific kinds of Gacha are regulated in Japan, not because of its quasi-gamble mechanism, which is in contrast to previous study perception, but because of its misleading marketing promotion method. The Japanese regulatory approach to handle the game of chance issues is to increase the transparency of probability of winning which gives consumer better chances to consider their total amount of spending on Gacha.

Keywords:

Free-to-play, freemium, mobile games, behavior, regulation. Gambling, virtual goods, Japan, Europe

Introduction

(1) Research Background

Several service providers try to create value for customers in online environments. Many of these businesses are still associated with the "real" economy such as Amazon which connects offline makers and shops with online platforms. Some services such as Dropbox are digital only services and create virtual value by providing online storage service to their customers, others develop virtual worlds filled with virtual goods. This can create a "virtual economy" made of virtual goods of value which can be compared to a real economy according to recent studies (Lehdonvirta, Castronova, 2014) where providers create artificial scarcity and social contexts.

Some of these online services adopt the "freemium service" model where the service can be used for free to some extent but payment is necessary for premium elements, additional services or for upgrades. (Kumar, 2014). This also applies to a variety of mobile games.

The business models of (mobile) games are generally categorized into three types; download purchase model, subscription model and a freemium model. The freemium model is also often called Free-to-play (F2P) and features in-app and/or virtual item purchases. Recently many mobile games utilize this model. Users are offered the game for free to play, but after certain progress and engagement with the game they are enticed to pay for continuing the game or for purchasing specific items to help with their progress.

In Japan, the main revenue source for F2P mobile games is called “Gacha”. At first sight, Gacha can be classified as a virtual item purchase model as the difference between the two seems small. But there is a significant difference from the view of mobile game players. Gacha is not a virtual item purchase but the purchase of a “lucky draw” to have a chance win a virtual item with different rarities. (Which is done through payments in real or virtual currency)

This special freemium business model and its mechanism as well as why users pay for it has so far has not been studied well, despite the fact that it already has led to several regulatory actions in Japan. Since Gacha mechanics have been recently gaining popularity in the West, often through the release of Japanese games in Western markets, its mechanism and perception based on the experiences in Japan is worth to be shared and to be analyzed.

In previous studies, Gacha is regarded as a kind of gambling. This paper, however, will take a closer look at Gacha, conceptualize its mechanism, look at its quasi-gambling elements from a taxonomy points of view and compare regulation of Gacha in Japan and general regulation of online gambling in the West to clarify its characteristics.

(2) Research question

The Gacha element is already being talked about among Western F2P game developers and players but not so much among Western researchers or regulators. Given the game of chance nature of Gacha this could even develop into a discussion around mobile gambling and perhaps regulatory actions. The authors evaluate the question if Gacha in F2P mobile games are just a new promising monetization element for freemium services or if it needs special attention or even (self-)regulatory actions in the West from a comparative point of view bases on gambling regulation.

(3) Methodology

This paper takes a descriptive/observatory approach looking at mobile F2P games with game of chance elements in Japan, the game of chance mechanics themselves as well as how this had been regulated. These findings are based on interviews with players and professionals, market research done by the authors, mobile gaming reports and regulatory and self-regulatory publication. Through this overview, it is possible to better understand the situation in Japan and allow to set it into comparison with other markets and their approaches.

Applying a taxonomy of gambling in (social) games outlined by Gainsbury, Hing, Delfabbro & King (2014) allows initial insights into an international point of view if Gacha would be problematic from a more general gambling issue point of view.

Furthermore, specific country based regulation on gambling are being examined to understand if currently regulatory structures exist which could provide a framework for future actions.

1. Comparison of mobile business models between the West and Japan

1.1 In the West - Virtual item purchase in game apps as freemium business model

The freemium business model has gained popularity especially in the software as a service markets in the recent years. Mobile games have been one of the major applications of freemium business models and this model is specifically called “Free-to-Play” or “F2P” (Nieborg, 2016). In these F2P games only about 2% of the players pay for premium services (Swerve, 2016) in the

form of micro transactions/in-app purchases. Yet games like Clash Royale by Supercell have created a revenue of 1 billion US$ within less than a year after launch. (Sachdeva, 2017). This business model is not without issues.

For players to proceed in these games they often must acquire money in a virtual in-game currency by paying with real money and then spend this virtual currency for purchasing virtual items, upgrades, potions or to speed-up time. These mechanics have been questioned already in Western academic literature (Heimo, Harviainen, Kimppa, Mäkilä, 2016; Zagal, Björk, Lewis, 2013; Paavilainen, Hamari, Stenros, Kinnunen, 2013).

There also has been very recent player focused discussion of overspending and addiction (Dreier, Wöl, Duven, Giralt, Beutel, Müller, 2017). These more negative discussions are in contrast to the game developer focused discussions like in Alha, Koskinen, Paavilainen, Hamari, Kinnunen (2014) or in Harrigan, Collins, Dixon, Fugelsang (2010) even suggesting that these kinds of games can take several inspirations from gambling machines such as slot machines to become more efficient in terms of monetization. This also includes "game of luck" elements or randomness to obtain virtual items (Craarena 2017).

In the last couple of years these games have also led to regulatory discussions in academia (Síthigh, 2014; Kervenoael, Palmer, Hallsworth, 2013; Feijoo, Gó, Aguado, Ramos, 2012) and also in government related discussions (Example Australia: Woodford, 2013, Example EU: Stenzel, Lima, Downes, 2012). An indicator that free-to-play games could already be regarded as somewhat problematic in the West.

2. In Japan - Gacha mechanism in game apps as freemium business model

In Japan, the mobile free-to-play game industry already started over 10 years ago long as game apps for featured phones before the introduction of smartphones. Different from their Western counterpart's game makers there had introduced a special monetization mechanics in their F2P mobile games called "Gacha" or "Gachapon". Players cannot directly purchase items through in-app payment but need to participate in a paid lucky draw to get access to a chance of winning one of them. (Yamakami, 2012a). These Gacha elements account for a main part of the revenue in free to play mobile games in Japan. (Shibuya, Teramoto, 2015). Japan has been mentioned as the country with the highest revenue per player globally (SuperDataResearch, 2016). In that sense Gacha seems like a new F2P business model element opportunity to increase the overall spent of the players.

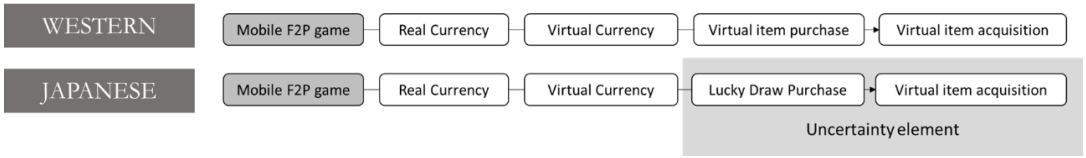

Chart 1: Difference between Western virtual item purchase model and Japanese F2P monetization which adds the uncertainty element to virtual item acquisition.

2. Gatcha versus Gambling – previous studies and taxonomy

2-1. What is Gacha – in previous studies

Based on previous Japanese studies, Gacha in online freemium services is regarded as a mechanism similar to gambling. Shibuya describes Gacha as "…similar in screen appearance to vending machines that dispense children's toys, and lucky players can win valuable gaming items this way…Gacha can be played for free, however, extremely rare and/or valuable gaming items can also be obtained through monetary purchases of online gacha products." (Shibuya and Teramoto, 2015, Page 3). Yamakami describes it as "Japanese game vendors have made huge revenues using Gacha. Gacha is a kind of gambling for special items." (Yamakami, 2013a, page 268) and as "…a mechanism to provide a randomly picked item, sometimes free and sometimes as paid items. Gacha is a great framework to introduce gambling spirits into mobile social games. It also obscures the high price to premium items because one attempt of Gacha can be cheap." (Yamakami, 2013b, page 738) or in more detail "a capsule container for a toy or a gadget…The price is one or two dollars. Before opening a capsule, its inner contents are not visible. Some of the contents come in a set, and therefore, users continue buying Gacha, trying their luck at getting a full set. Virtual Gacha for digital content is a popular revenue-generator in mobile social games. Sometimes, the content is an avatar, clothes for avatar, weapons, and so on." (Yamakami, 2012a, page 1233).

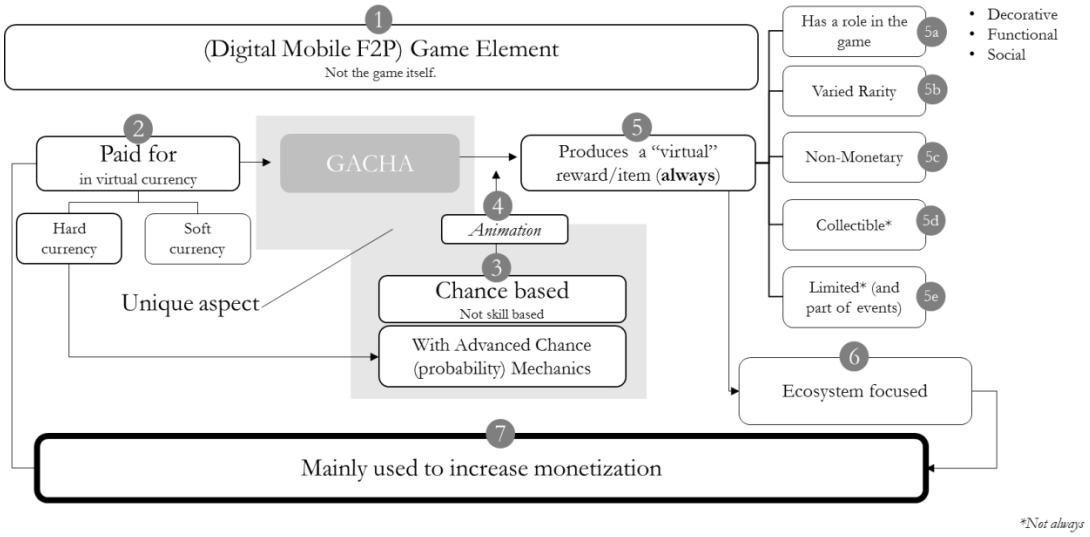

Chart 2: Outline of Gacha elements in Japanese mobile F2P games

Based on actual gameplay, previous literature and game analysis reports (Spicemart, 2016) an initial outline of Gacha can be described through the following element:

Gacha is a key game element but it is not the game itself (1). It is paid for using an in-game virtual currency either by soft or hard currency (real money) (2). It is game of chance based (including advanced chance mechanics and probabilities) (3) uses animation to visualize the lucky draw (4) and always provides a (virtual) reward (5) in form of virtual items, characters, etc. which play a role in the game (decorative, functional, social) (5a) which are available in different levels of rarity/limitedness (5b), are often collectable (5c) and cannot be redeemed for real money (no real money trading) (5d). Furthermore, Gacha and the rewards are often combined with real time events (5e). The items acquired through Gacha are only valuable within the game and often are an essential part of the game ecosystem (6). Gacha is mostly used to increase monetization for the game provider (7).

This conceptualization illustrates why Gacha can be seen as a virtual lottery mechanics within a game where users pay with virtual or real money to get access to lucky draws for virtual items with different levels of rarities and the different elements it contains.

2-2. What is Gacha - Taxonomy approach

There has been an ongoing discussion by Japanese researchers if Gacha game of chance elements can be regarded as gambling and if this could be seen as problematic. (Shibuya, 2015; Yamakami, 2013a, Yamakami, 2013b). From the Japan regulatory side the discussion of Gacha and gambling has not surfaced. It does not seem to be an issue so far. As the reasons behind this could be related to a specific -more relaxed- Japan or Asian perspective on gambling it would be interesting to look at Gacha and its relation to gambling from a more western mindset.

Gainsbury, Hing, Delfabbro & King outlined a taxonomy of gambling in their 2014 paper providing a more general and international perspective on gambling elements in connection with social (media) games and if these games would qualify as "gambling" and therefore would need closed analysis and consideration by regulators.

This taxonomy was based on earlier framework from Parke et al (2013) and was built on international best practice approaches and previous publications on game and gambling issues and regulations.

The authors developed a simple to follow flowchart to determine if a service would qualify as gambling or not even though the service seems to be rather gambling related. The key elements in the framework are 1. The need to pay using real money 2. The balance between chance based and skill based elements 3. The platform(s) the games are offered on and 4. How important the gambling theme is in the game itself.

Looking at this flowchart, the Gacha elements outline provided at the beginning of the paper and previous studies the following logic conclusions can be drawn:

Gacha is an online game which contains gambling components so it would fall into a category that needs closer consideration.

Angle 1: In Gacha Games players do not have to pay money to play. Yet they do have to pay real money to increase their chance to win rare items through Gacha or to have access to win limited edition virtual items.

If Gacha is regarded as not requiring payment, then the next question would be if the game is integrated into a social media platform. In the case of Japanese F2P Gacha games they have connections to social media but they are not deeply integrated into these platforms. They are also not offered by gambling operators.

Angle 2: Even if a Gacha game would be integrated deeply into a social media platform it would not qualify as gambling because its core game is not focused on gambling or casino simulation.

If Gacha is seen as requiring real money payment it does not produce a prize of monetary value outside of the games ecosystem and there is no opportunity to sell it within the ecosystem. This would not quality as gambling

In summary Gacha (according to this taxonomy) would not qualify as gambling mainly because of these points:

- No real money can be won
- It does not "simulate" casino gambling activities

- Gambling theme is not central part of the game
- Main game outcome determined by skill
- Not provided by a gambling provider

Source: Gainsbury, Hing, Delfabbro & King, 2014, page 4

Based on the above outline Gacha powered games would not need to be regulated according to gambling regulation. But the authors also touch upon virtual worlds with gambling elements and virtual currencies but only see it as problematic if virtual money can be exchanged for real money. Even the games do not allow this function of monetary exchange, if there are third party trading platforms where players sell items or virtual currency then this can become an issue.

3. Gacha and its regulation – comparison between Japan and the West approach

3-1. Gacha and its regulation– Japan

(1) Kompu-Gacha regulation by Law in Japan - as lottery and promotion tool

In 2012 Gacha has already been in the focus of Japanese regulation when the government banned the use of "kompu gacha". (Kennedy, 2012). This was a specific game of chance mechanics that required players to collect several items by lucky draws to then unlock a very special item without the knowledge of any probabilities. In this case gambling and the F2P business model collided (Woodford, 2013). Some mobile game titles have started the displaying of probability of Gacha since 2012 after a new guideline was released by six major mobile game publishers in Japan (DeNA, 2012).

Despite the fact, that Gacha has existed in mobile games in Japan since around 2004 with one of the first games being Maple Story. (4Gamer, 2007), complains to the Consumer Agency in Japan had increased in 2011 (Machia, 2012). The main issue was the so called mechanics of "Kompugacha" which had been previously mentioned in the paper. The name comes from the word KOMPURETO which means "to complete". This mechanics require the player to first collect a series of items (complete set) before being able to unlock a specific rate item. Without any known data on the probability, rarity or potential costs of acquiring the final item the Consumer The Consumer Affairs Agency in Japan (CAA) banned the practice of "Kompugacha" in 2012 for the reason that it corrupts the game experience as the system makes it difficult to understand the probability to win a prize (CAA, 2012). Game companies had to abandon these mechanic and switched to other kind of Gatcha and invented new ones. Over the course of time game developers introduced several new Gacha mechanics several of them with hidden probabilities and hidden total costs for acquisition by just hinting how rare some items are.

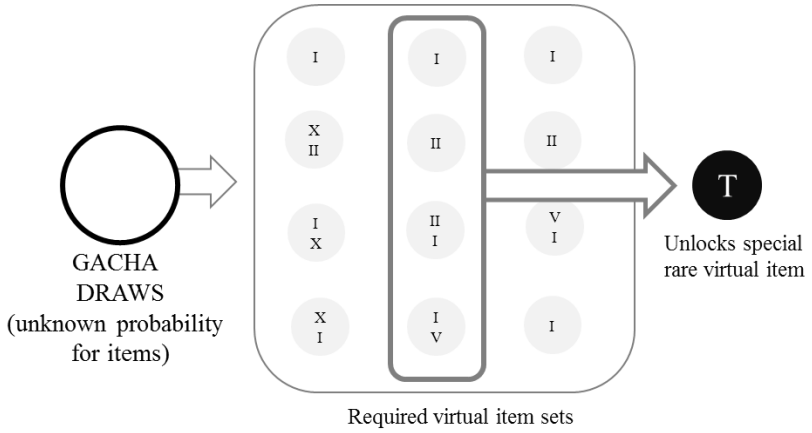

Chart 2: Kompugacha Mechanics

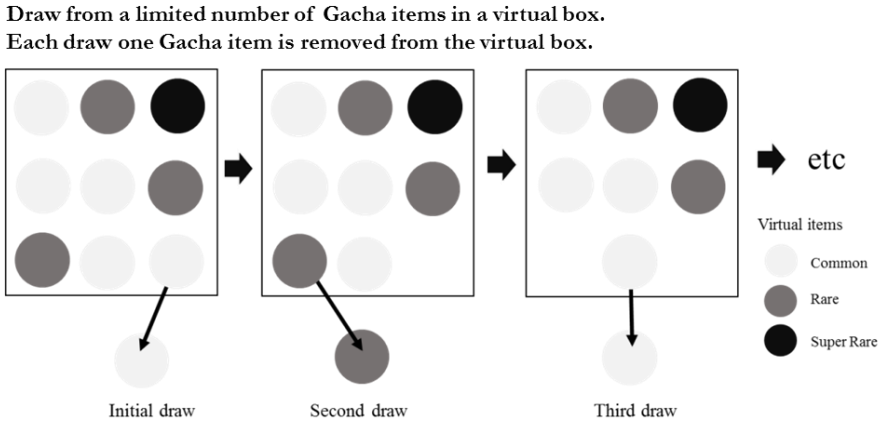

Chart 3: Box Gacha Mechanics (introduced after ban of Kompugacha)

CAA banned Kompugacha based on the "Law for Preventing Unjustifiable Extra or Unexpected Benefit and Misleading Representation" which was a different law from gambling regulation. The law prohibits unfair promotion to sell certain goods or services. The fourth article regulates "lottery" mechanism utilization to attract consumers if probability expression is deceptive for consumers.

(2) Probability self-regulation through guidelines in Japan – for increasing transparency

Again in 2015 Gacha had been mentioned negatively in Japanese media for a specific game title and its issue of promising a wrong probability to acquire a specific game item (Nakajima, 2016). In 2016, CESA (Computer Entertainment Supplier's Association) announced a new guideline to increase transparency of probability of Gacha item emergence (CESA, 2016). The guideline calls for displaying the probability of each Gacha items so consumers can understand their chance of winning better.

Then in 2015 another Gacha related issue became public this time associated with a specific game (Grandblue Fantasy) and its lack of providing correct probabilities/costs for acquiring specific items (Nakajima, 2016). As a reaction to this, the Association of Japanese game developers (CESA) issued a guideline in 2016 asking their members to provide more transparency for Gacha mechanics within their games. The guidelines require game makers to implement one of the following 4 standards:

> a. The limit on the estimated price (the price calculated as an expected value according to the set distribution rate) to obtain any rare Gacha item should be within 100 times the price of a single paid Gacha, and in the case, that this limit is exceeded, that estimated price or its multiplying factor is to be displayed on the Gacha page.
>
> b. The estimated price limit to obtain any rare Gacha item should be within 50,000 yen, and in the case, that this limit is exceeded, that estimated price is to be displayed on the Gacha page.
>
> c. The upper limit and lower limit of distribution rates for rare Gacha items are to be displayed.
>
> d. The distribution rates for each type of rare Gacha item are to be displayed.
>
> (Spicemart, 2016, p.6)

By this self-regulation, member game companies only had to fulfill one of above conditions since it did not require to adhere to of all of them.

Gacha has also been recently a more utilized element in the West with the introduction of localized Japanese F2P games such as Puzzle Dragon, Monster Strike, FF Brave Exivus and most recently Fire Emblem Heroes which also feature Gacha gaming elements. (Wawro, 2017; Tang, 2017) On the other hand the general combination of micropayments and game of chance elements are gaining more critical attention in the West. One example is the Multiplayer game Overwatch and it's so called "loot boxes" (Kulik, 2016)

(3) Following Japans Example: China's regulation of "Loot box" to expand transparency

The Ministry of Culture in China announced new regulation in December 2016 to force game publishers to provide more information on their game elements. This specifically applies to Gacha like game of luck elements in Japan called "loot box" and their probability (NeoGAF, 2016). Similar to Japan, instead of focusing on the gambling-like mechanics, regulators looked at the unknown probability side as an issue.

Unofficial translation of China regulation says that game publishers promptly reacted and provided game related information including probability of lottery prize winning (Nathan, 2016).

The regulation of the Chinese government demands publisher to keep a record of the probability rates for 90 days (NeoGAF, 2016).

Reportedly, American game publishers, Blizzard Entertainment, Riot and Perfect world, officially revealed the probabilities of winning virtual items for their most popular game titles in China from May 2017 when the regulation became effective (Chalk, 2017). According to the article, probability to win rare items ranged from about 7 percent to less than 20 percent.

It is assumed that the probability rate increased after May 2017 roughly from less than 10 percent to 20-30 percent because of the new transparency (Barret, 2017).

4. The Western approach to regulate gambling in online games and "game of luck" elements - Regulatory Background on Gambling in selected countries

A look at several European countries and their activities on gambling regulation reveals commonalities such as the focus on lotteries, (sport) betting and casinos but it also shows several difference in the liberty of allowing the operation of private gambling providers and in how detailed regulatory bodies have analyzed and adapted to a rapidly changing environment that is becoming more and more digital. All of the countries outlined below regulate lotteries under their gambling legislation. Gacha as a virtual lottery for virtual prizes per se would not fall into this category.

(1) Germany

According to an interview conducted by the authors with a game regulation researchers in July 2017 Germany has one of the least developed frameworks in Europe. Gambling in Germany is regulated through the Glücksspielstaatsvertrags (GlüStV) established in 2008 and reintroduced in 2011. It covers casinos, lotteries, sport betting and advertising for these services. (Glücksspielstaatsvertrag, 2011). Amendments have been made in 2012 and new amendments are planned for 2018. The initial regulation was introduced with an emphasis on health instead of liberalization to prevent gambling addiction, illegal gambling, protect minors and to prevent illegal and criminal practices. It also introduced a quasi-monopoly for the government on sport betting and a strong regulation for lotteries. The government in 2011 opened a time limited experimental window for private sports betting providers. (Pagenkopf, 2012; Schippel, 2016; Haucap, Nolte, Stoever, 2017) There is also a state based Landesglücksspielgesetz (LGlüG) which regulates gambling on a regional state level. (Example Baden-Wuertenberg: Landesglücksspielgesetz, 2012)

Game of chance providers need to obtain a license. The gambling regulation coordination as well as licensing requests are handled by the game of chance Committee which consists of one representative of each German state, appointed by each local regulatory office. The committee also decided on gambling service related advertising. The committee had been criticized for non-transparency and had to face lawsuits because of this. (Verwaltungsgericht Wiesbaden, 2015)

A recent study has also shown that Germany seems to have strong regulatory gaps in gambling/Game-of-chance regulation ranking behind other countries such as the UK. According to the study currently gambling activities such as lotteries and sports betting seem to have a de facto monopoly. Services like online poker or online casinos are deemed illegal (exception: Schleswig-Holstein) and the market is occupied with several illegal and grey gambling providers. The study suggested the establishment of a central regulatory office instead of the current state based offices to unify regulation. (Haucap, Nolte, Stoever, 2017)

Social gaming itself is not regulated at all at the moment under this regulatory umbrella. There also seems to be no major Consumer Protection Initiative or political activity towards better regulation or self-regulation of mobile F2P games if it is not related to minors. On the contrary, the German Union of Interactive Entertainment Software (BIU) recently established a department for political communication, apparently with the goal to better influence political decision makers. (Zelada, 2017)

(2) Belgium

Belgiums regulatory framework can be seen as more advanced than Germany as well as more liberated. Gambling in Belgium is regulated under several laws, the most important one being the Gaming and Betting Act of 1999 which was recently updated in 2010, the lottery act of 1851 and he National Lottery Act of 2002. (Astrea, 2016; Gaming Commission, 1999, 2010)

In the case of social gaming there does not seem to be a specific regulation in place but there are specific regulations and licenses for offering mobile based gambling services. According to the regulatory body, if games are provided as completely free -even they use in-game virtual currency to pay for items- they would not fall under the gambling regulation. Although the inclusion of real money transactions for acquiring virtual currency and virtual items then could become a potential issue. (Astrea, 2016)

While the above has been framed in a more gambling centric approach, in 2015 The Belgian Regulators (BGC) filed a legal claim against Machine Zone, a F2P mobile game developer. The reason for the claim was a Mobile Game title named "Game of War: Fire Ages" which had been ranked as one of the top revenue generating mobile F2P titles in the market. The game itself is a multiplayer online strategy game but the regulators pointed out that the game features a virtual casino in which players could gamble using virtual money (money they can acquire in the game or through paying real money). Based on this issue and the assumption that this mechanic is a key part of the game itself the game provider was accused of illegal gambling activities by the authorities. Game of chance elements were also seen by the regulatory body as elements inciting users to spend more money due to their gambling nature.

It needs to be added that one other key factor for the regulatory action can be attributed to the fact that the game was also targeted at underage players and led to a 15 years old player spending 25,000 Euro in the game. (Barlowe, 2015)

(3) UK

The U.K. is also seen as one of the more advanced countries in terms of regulatory recommendations and evaluations, having issued a broad range of guidelines and discussion papers over the past 10 years to keep up with the changing environment.

In the UK gambling is regulated through the Gambling Commission, covering lotteries, betting and casinos, which was established in 2005 and also provides licenses to gambling providers. They Commission also looked at and analyzed social gaming from a gambling regulatory angle in 2015 (GC, 2015) and also put forward a discussion paper on topics such as virtual currencies in 2016 (GC, 2016). The regulatory body concluded that social games do not need a regulation at this point in time. The regulatory focus of the Commission is on games that replicate real world gambling scenarios. (Simulated gambling)

(4) Comparison among the western countries

Looking at the case of Gacha it seems it would not qualify as gambling or fall under the gambling regulation in the countries covered. (The reasons varying from careful analysis of social games to simple neglect) Belgium's actions against Games of War could be seen as an outlier but this could be attributed to the case of a minor being involved.

	Int. Gambling Taxonomy paper	**Germany**	**U.K.**	**Belgium**
POV/framework from regulator on social games	Yes*	No	Yes	Yes
Liberated Gambling market level (Ease of access for private gambling providers)	-	Low	Medium	Medium
Gacha would qualify as gambling?	No	No	No	No* (Game of War incident)

Table 1: Gambling regulations and Gacha as gambling

Conclusion

(1) Gacha and "game of luck" elements as lottery

Despite its similarity to gamble, Gacha could be understood as a kind of lottery mechanism in a virtual world. Gambling is about betting money or valuable assets to get higher returns than the betting amount. Gacha is about pulling a lottery to get randomly allotted items in variable rarity. At gambling, player will lose when they get less than their bet. Gacha has a flexible probability, provides virtual prizes items which can be expanded and reproduced at very low costs and only have a value within the game ecosystem. Gacha has free and paid options and the provider sets the probability of winning and the range of items to be won. (Like real lottery)

That made it possible to develop and experiment with many different types of Gacha mechanics to help increase the games monetization. Some of them without providing any probability of winning/acquiring a specific item. This created a negative perception by the players and had lead to consumer complaints. The Japanese government regulated Gacha through the Law for Preventing Unjustifiable Extras or Unexpected Benefit and Misleading Representation. The law was enacted in 1962 to protect consumers from misleading labeling of goods and services (CAA, 1962). This shows that the concern of regulators is not the game of chance element of Gacha but its uncertainty element which have led to several incidents and complaints on the consumer's side. So, it appears like the key elements that have led to regulatory actions in Japan were the unknown probability issues and the unknown cost of virtual item acquisition. Players as well as regulators were not so much concerned about gambling concept such as the lottery mechanics of Gacha or its close ties into the gameplay and payment. Instead they demanded more transparency from the game developers on winning probabilities and costs.

(2) Looking beyond gambling regulation

For Western regulators the example from Japan could offer some helpful insights. An initial look at gambling taxonomy and regulatory gambling frameworks in selected countries has shown that Gacha would not fall into the gambling category per se. So, regulatory actions/recommendations from that side seem to be difficult as long as they are not related to minors. Similar to Japan it might be more helpful to look at consumer protection regulations and how transparency can be provided in Gacha enabled F2P games in the future

China seems to have followed the Japanese approach with their recent regulatory decision on "loot" mechanics in games. Instead of focusing on the gambling regulatory aspect they stressed the importance of providing transparency from a consumer protection angle

(2) Further analysis and discussion

Government regulation versus Self-Regulation

In Japan Gacha was first regulated by the government and then through self-regulatory activities of the game industry. Both were initiated because of player complaints. After the seal-regulatory guidelines were set into place no major consumer complaints have been filed. It needs to be mentioned that these guidelines are far from strict and might serve more the game developers than the consumers. The decision towards self-regulation in this field is difficult because there seems to be a conflict of interest between the self-regulators interests and consumer's interests.

F2P games are "non-static" and theme specific

One important element of F2P mobile games is the fact that these games cannot be seen as "products" but as "software as a service". Development on these games never stops. Content, game mechanics, designs can change on a monthly basis. Furthermore, there is a broad variety of game themes and types. This paper suggests that a future regulatory evaluation should be done on an ongoing and individual game basis. Player's feedback and complaints can serve as good indicators of possible issues that would need regulatory attention and actions.

Not only looking at minors

There are already several regulations in place in various countries that control try to protect minors from gambling like activities including gambling in games. While this is of utmost importance we think, this concern should also extend to adult players. There is the danger that Gacha mechanics can increase gambling/gaming addiction especially for players with personality problems. Cases in Japan have been reported where adult players spend several thousand Euro per month on Gacha resulting in severe financial problems as well as suicides.

Naming conventions & definitions

When studying previous papers, regulatory frameworks as well as when talking to experts revealed that there are several different words and definitions being used when discussing gambling and games. "Gamblified Gaming", "Simulated Gambling", "Gaming" and "Social Games" are sometimes used synonymously creating confusion and unclarity and making it difficult to establish a discussion based on common grounds. This issue has already been outlined by other researchers (Meyer, Brosowski, von Meduna, Hayer, 2016; Gainsbury, Hing, Delfabbro & King, 2014). Adding to that confusion is the Japan specific terminology of "Sousha Gee" which translates as "Social Games" but actually is a synonym free-to-play mobile games.

In the future terminologies, should be made more clearly and transparent and ideally agreed upon amongst researchers and regulators internationally.

(3) Future Studies

Future studies could look closer at the impact of regulatory and self-regulatory actions on game revenues and how they affect the freemium business models in Japan. A closer look at player's perception could provide interesting insights into changes before and after regulatory actions on Gacha had been taken.

From a Western perspective, it could be of interest to look into other non-gambling related regulatory frameworks related to consumer protection to understand better how Gacha like game of chance elements in freemium services is already covered or should be covered.

Another angle would be to analyze in more detail about the specific effects of Gacha on players. How Gacha enabled games are perceived differently from games which offer direct virtual item purchases and how the behavior of players differs. In the future, these findings could help to think of Gacha elements beyond monetization and how they can be applied to freemium services in general.

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